DWS-3227P Layer 2+ Stackable Gigabit Wireless Unified Switch

Advanced Switching Features:

+ Triple Optional Fiber XFP 10G Uplinking
+ Dual Optional Copper CX4 10G Uplinking
+ Up to 48Gbps Total Stacking Bandwidth
+ Physical Redundant Stacking
+ Stack Up to 16 Units Per Stack*
+ Optional Redundant Power Support
+ Up to 32 Static IP Routes
+ 802.3ad (Link Aggregation)
+ 802.1v (Protocol-based VLANs)
+ 802.1p Priority (8 WRR)
+ DiffServ QoS
+ 802.1x (Port-Based Authentication)
+ 4000 802.1q VLANs
+ IGMP Snooping
+ ACL L2/L3/L4
+ SNMPv1/v2/v3
+ Block Against Predefined DoS, Trojan, Worm Attacks
+ IEEE802.3af Power over Ethernet

Unified Wired/Wireless Platform:

+ 256 Wireless VLANs
+ Up to 50 APs per Switch/Stack
+ Up to 600 Simultaneous WLAN Users per Switch/Stack
+ Supports 802.11a/b/g Standards
+ Seamless Wireless Roaming
+ Upgradable 10, 25, or 50 AP License
+ Industry Standard Encryption: WEP, WPA™, WPA2™
+ Supports up to 16 SSIDs per AP
+ Centralized AP Management
+ GUI WLAN Monitoring & Logging
+ Automatic Channel Assignment
+ Dynamic WLAN Load Balancing
+ Rogue AP Detection & Containment

L2+ 24-Port Gigabit PoE Switch with 10 Gigabit Uplinks

Overview

D-Link's xStack 3200 Series switches are designed to provide effortless wireless technology convergence with traditional Layer 2 data access switching, emphasizing on security, performance, and resiliency. Featuring the latest stacking technology from D-Link, the xStack DWS-3227P can stack up to 16 units*, providing up to 400 Gigabit ports. It can stack with other D-Link switches such as the DXS/DWS-3250, DXS/DWS-3227, and DXS/DWS-3227P, providing extraordinary flexibility. It provides 24 built-in copper Gigabit ports, including 4 combo SFP ports for easy, flexible connection to fiber-based Gigabit media. The DWS-3227P is also equipped with 2 module slots that support 10 Gigabit Ethernet for both copper CX-4 and fiber XFP connections, as well as 1 fixed 10GbE XFP port. When stacking through CX-4 interfaces, a stacking bandwidth of 48Gbps can be achieved, for a total switching fabric capacity of up to 120Gbps. In addition, the DWS-3227P also supports IP static routing, 4000 VLANs, up to 64 trunk groups, and is 'wireless-ready', providing wireless roaming, centralized AP management, and rogue AP detection in a single switching solution. The DWS-3227P comes standard with a 10 client AP license upgradeable up to 50, and is capable of supporting 50 APs per switch /stack with up to 600 WLAN clients.

Unified Wired/Wireless Ready

In a mixed network of wired and wireless environments, predictable coverage and security become paramount. The need for a switching solution capable of addressing these needs in both the wired and wireless environment becomes key. The DWS-3227P is capable of meeting this demand and more. With a simple optional firmware upgrade, the DWS-3227P transforms from a standard Layer 2 switch into an integrated wired and wireless switching solution capable of providing powerful wireless security, easy deployment, the ability to detect rogue access points, and centralized management for all compatible WLAN components. Centralized management is crucial for wireless technologies deployed in real-time inventory, data mining, and an array of personal electronics that demand mobility and seamless integration such as PDA and 3G/VoIP mobile phones. With an optional software upgrade, the DWS-3227P becomes a wireless switch providing secure, seamless roaming between access points ensuring clear, uninterrupted data and voice communication throughout your wireless network infrastructure.

DNA Stacking Architecture

Distributed Network Architecture (DNA) is a combination of hardware and software that is embedded in D-Link's latest 3200 Series of xStack switches. Switches built with DNA are easily stackable with little or no system downtime for expansion. For example, the DWS-3200 Series switches are self-healing by quickly discovering failures in the stack and re-routing traffic to automatically avoid the failed device and discover the new topology. The flexibility of DNA lets network designers choose the right topology for connecting their devices whether it be through a 10 GbE interface or using a 1000Base-X port to connect between wiring closets. The DWS-3200 Series switches can be used in a number of topologies such as ring or chain stacking. When changes are made to the stack, DNA automatically discovers the new topology and reconfigures the system to accommodate the changes. In the unlikely event of equipment failure, the switches rapidly reconfigure the stack to avoid the failed switch, resulting in extremely fast failover times and little to no downtime. In addition, the DWS-3200 Series allows the network administrator to maintain transparency of system features such as Port Mirroring, VLANs, and Link Aggregation across the stack. Unlike other stacking solutions, this feature allows an administrator to add and remove ports from VLANs without having to configure the VLAN on each switch and without the added hassle of creating VLAN trunks between devices. This also allows, through the use of port mirroring, the ability to monitor any port throughout the stack without having to be physically connected to the same device. This flexibility allows for better troubleshooting, faster configuration, and a lower risk of configuration errors.

* Future release

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Comprehensive Security

The DWS-3227P is equipped to handle many of today's emerging security vulnerabilities previously delegated to only standalone firewalls. It incorporates built-in ACLs for searching out and filtering such threats as: Denial of Service attacks, Trojan Horses, Worms, and more. Other access rules can also be set up to prevent network and 802.1x authentication login. In addition, port-based security can also be set up to protect the integrity of the network. With the D-Link Safeguard Engine, the DWS-3227P protects against attacks towards the CPU itself and improves utilization to meet existing network demands to maximize device responsiveness to user configuration activities. In addition, well-known port numbers for allowed applications can be pre-programmed, which will allow these applications faster service and reduce the load on the CPU.

High Availability

The DWS-3227P supports "Shortest-Path" switching, which improves resiliency, uptime and network efficiency. It also supports an optional Redundant Power Supply. It includes support for 802.3ad Link Aggregation, and 802.1w Rapid Spanning Tree for increased network reliability and availability.

Network Management

The DWS-3227P features a variety of network management options: Console CLI, Telnet, Web GUI, SNMPv1/v2/v3, and RMON. It also supports a variety of advanced traffic management options including: Layer 3 Static Routing, Bandwidth Control, Broadcast Storm Control, Private VLANs, and support for IGMP Snooping. D-Link's exclusive DNA stacking technology is also supported, which allows up to 16 D-Link DWS-3227P switches to be stacked together and managed as a single unit, regardless of its physical environment.

Advanced QoS

The DWS-3227P provides a robust and consistent set of QoS/CoS, supporting 8 priority queues for 802.1p/ ToS/DiffServ, with classification and marking based on MAC SA/DA, IP SA/DA, and/or TCP/UDP. It also provides extensive support for GARP/GVRP, 802.1q, and port-based VLANs for up to 4000 groups per device.

Power over Ethernet IEEE 802.3af

Wherever the location—factory, warehouse, campus, small office, or enterprise facility—the challenge and cost of running power to difficult-to-reach locations in order to meet network design can become a disruption to business and a drain on resources. To solve this problem, the DWS-3227P is equipped with 24 10/100/1000BASE-T ports that support the 802.3af PoE protocol. The DWS-3227P is designed to inject up to 15.4 Watts of power per port on all 24 RJ-45 ports to support IP Phones, Access Points, Cameras, and more. The DWS-3227P provides amazing security and flexibility when utilizing the DWS-3227P's 'wireless switching' features. When used to power IEEE 802.3af compliant wireless access points, such as the DWL-2230AP or DWL-7230AP, this 'wireless-ready' switch transforms into a complete wireless enterprise solution. For devices that are not 802.3af compliant, the D-Link DWL-P50 adapter can be used to supply power to the device making it fully compatible with any 802.3af compliant switch. The DWS-3227P is ideal for today's popular PoE applications. Best of all, with 15.4 watts of total power per port, the DWS-3227P will be capable of providing power to future high wattage 802.3af devices such as monitors, scanners, PDA cradles, cell phone chargers and more, insuring a future proof network for years to come.

Wireless AP License

The xStack DWS-3227P switch provides secure, seamless roaming between access points ensuring clear, uninterrupted data and voice communication throughout your wireless network infrastructure. The DWS-3227P supports an optional 10, 25, or 50 client AP license and is capable of supporting up to 50 APs per switch /stack with up to 600 WLAN clients.

Centralized AP Management

The xStack DWS-3227P is capable of centralized management of compatible wireless access points. No longer will each individual access point need to be configured independently. Now your entire wireless network can be managed through a single interface. The xStack DWS-3227P includes support for automatic discovery of APs with real-time monitoring, providing visibility into utilization and performance of WLAN users and devices.

Wireless Security

The D-Link xStack DWS-3227P provides Enhanced Wireless Security features to ensure your data is protected from hackers. Support for WEP, WPA™ and WPA2™ encryption guarantees the privacy of your network data. Rogue AP detection and containment ensure that only the APs you install are able to function on your network. AP detection allows identification of APs into "known" and "rogue" classifications. The switch uses the APs to continuously scan radio channels in an attempt to identify transmissions of unauthorized WLAN nodes facilitating notification and/or jamming of the rogue signals.

Seamless Wireless Roaming

When a user roams between APs connected to different broadcast domains, the user's IP address is no longer valid after the move to the new AP. This means the user's device (laptop, PDA, VoIP phone) will need to change its IP address, thus breaking the active session. With "always connected" devices such as VoIP phones and PDAs this can create a huge problem. The need for a solution to provide seamless roaming between APs on different subnets becomes essential to maintaining active sessions and VoIP calls.

The D-Link DWS-3227P addresses this problem by bringing AP configurations and support directly into the switch itself. This allows the user to move between access points with seamless mobility. To the user's PDA or VoIP phone, the move appears as if it were between APs on a single broadcast domain. This means the user's device will retain its VLAN membership and IP address guaranteeing uninterrupted communication.

Inter-Switch Roaming

The xStack DWS-3227P supports roaming of wireless stations between access points attached to different switches. The seamless inter-switch roaming procedure allows a station's VLAN membership (IP subnet) and QoS parameters to be retained when roaming between APs connected to multiple switches throughout the network. Inter-Switch roaming is an extremely beneficial feature when creating a large WLAN environment such as a campus or multi-floor office. Inter-Switch roaming allows the user complete freedom to roam between switches located in different buildings or on different floors without disconnection or need for re-authentication.

* Future release

L2+ 24-Port Gigabit PoE Switch with 10 Gigabit Uplinks

Technical Specifications

Product specifications

DWS-3227P	L2+ Managed Wireless switch with 24 10/100/1000Mbps Ports, 4 Combo SFP Ports, 1 fixed XFP interface & 2 Optional 10-Gig Copper/Fiber Uplinks + PoE
MAC address Table	16K
Aggregated Bandwidth	108Gbps
VLANs	Supports up to 4K VLAN Groups (port based, 802.1Q, GARP/GVRP, 802.1v protocol based Q-in-Q Tagging)
Priority Queues	8 Queues (802.1p/TOS/DiffServ) – Strict Priority or Weighted Round Robin Queue Scheduling
Classification QoS/ACLs	Based on: MAC, IP, TCP/UDP, Payload, Port, DSCP, 802.1p
Routing	32 static routes
Multicast Support	IGMP snooping, IP spoofing
End to End Flow Control	Flow Control Across Packet Processors
Link Aggregation Balancing	Based on MAC SA/DA, Based on IP SA/DA
MAC Table Search	Search MAC/IP to reveal source Unit/Port
IP to MAC Bbinding	Display IP to MAC bindings
Port Utilization	Measure Traffic, total port capacity
Single Port Stacking	Chain Topology
Trojan/DoS Attacks Prevention	MAC spoofing, IP spoofing
Signature-based Detection	Illegal TCP/ICMP packet check, protocol checker, martian address check, well known DoS virus, TCP frame with source port 1024 syn flag ON, Server Spoof, Stacheldraht Distribution DoS Attack Client, Invasor Trojan, Back Orifice Trojan

Interface Options

RJ-45	10Base-T, 100Base-TX, & 1000Base-T
LC	With Optional Standard Small Form-Factor Pluggable (SFP) Gigabit Transceivers With Optional 10Gigabit XFP Transceivers
CX-4	With Optional 10GBASE-CX-4 Module
RPS	Redundant Power Supply via Optional DPS-600

Wireless Switching

AP License	10 standard. Firmware upgradeable to 25 or 50 AP license
Max Allowed APs	50 APs per switch. 50 APs per stack
WLAN Encryption	WPA™, WPA2™, WEP (64 & 128 bit)
WLAN Security	802.1x Authentication
Rogue AP Detection	Port-Based & Radio-Based
Supported Roaming	Intra-Switch, Inter-Band, Inter-Switch
802.11 Support	802.11a, 802.11b, 802.11g (based on supporting AP)
Max Users per AP	30 WLAN simultaneous users. 800 max per switch / stack
Wireless VLANs	256
SSIDs	16 concurrent SSIDs per AP
WLAN Management	HTTP, HTTPS, Telnet, SSH, SNMP

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SYSLOG Events	Connection success / failure, station roaming / AP connection, error rates above threshold, encryption errors
Logging Filters	Errors only, all events, per station, per AP
Additional Features	Automatic Channel Assignment, Dynamic Load Balancing

Network Protocols and Standards

In Band & Out of Band	Telnet, CLI/Console, RMON, Web-based HTTP, SNMPv1/v2/v3, Syslog, Port Mirroring, TFTP Client, BootP Client, DHCP Client, BootP/DHCP Relay Agent, and DNS Client
IEEE	802.3 Ethernet, 802.3u Fast Ethernet, 802.3ab Gigabit Ethernet, 802.3z Gigabit Ethernet, 802.3ak 10GBASE-CX-4, 802.3ae 10GbE, 802.1d Spanning Tree, 802.1w Rapid Spanning Tree, 802.1p Priority Tags, 802.1q VLANs, 802.3ad Link Aggregation, 802.3x Flow Control, 802.1x Port-based Authentication, 802.1x MAC-based Authentication, 802.1s Multiple Spanning Tree, 802.1v protocol-based VLANs
IETF	RFC 1157 SNMP, RFC 1112/2236 IGMPv1/2, RFC 1757 RMON (4 Groups), RFC 1493 Bridge MIB, RFC 1213 MIB II, RFC 793 TCP, RFC 826 ARP, RFC 854 Telnet, Diffserv

Electrical & Emissions Summary

Emissions	CE Mark & FCC Class A
Power Supply	100-240VAC, 50/60 Hz Internal Universal
Power Consumption	60 Watts + PoE (370 Watts)
PoE Budget	370 watts

Safety Agency Certifications and Environmental

Safety	CE/LVD, UL Listed (UL1950)/CUL
Temperature	Operating: 32° to 122°F (0° to 50°C)
	Storage: -4° to 149°F (-10° to 65°C)
Humidity	Operating: 10% ~ 85% RH, Non-Condensing
	Storage: 0% ~ 95% RH, Non-Condensing

Physical Specifications

Dimensions (W x D x H)	17.50in x 16.93in x 1.77in (445mm x 430mm x 45mm)
Height	1U
Weight	14.8lbs (6.7kg)

Warranty and Support Information

Warranty	Limited Lifetime Warranty
Support	Free Technical Support

Ordering Information

Part Number	Description
Switch	
DWS-3227P	xStack Stackable Managed Layer 2+ Wireless Switch with 10 AP license and 24 10/100/1000Mbps Ports, 4 Combo SFP ports, 1 Fixed XFP & 2 Optional 10-Gig Copper/Fiber Uplinks and PoE
DWS-3227	xStack Stackable Managed Layer 2+ Wireless Switch with 10 AP license and 24 10/100/1000Mbps Ports, 4 Combo SFP ports, 1 Fixed XFP & 2 Optional 10-Gig Copper/Fiber Uplinks
DWS-3250	xStack Stackable Managed Layer 2+ Wireless Switch with 10 AP license and 48 10/100/1000Mbps Ports, 4 Combo SFP ports, & 2 Optional 10-Gig Copper/Fiber Uplinks

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DXS-3227P	xStack Stackable Managed Layer 2+ Wireless-Ready Switch with optional 10, 25, or 50 AP license and 24 10/100/1000Mbps PoE Ports, 4 Combo SFP ports, 1 Fixed XFP & 2 Optional 10-Gig Copper/Fiber Uplinks
DXS-3227	xStack Stackable Managed Layer 2+ Wireless-Ready Switch with optional 10, 25, or 50 AP license and 24 10/100/1000Mbps Ports, 4 Combo SFP ports, 1 Fixed XFP & 2 Optional 10-Gig Copper/Fiber Uplinks
DXS-3250	xStack Stackable Managed Layer 2+ Wireless-Ready Switch with optional 10, 25, or 50 AP license and 48 10/100/1000Mbps Ports, 4 Combo SFP ports, 2 Optional 10-Gig Copper/Fiber Uplinks
Access Points	
DWL-2130AP	xStack 3200 Series 802.11g Access Point
DWL-2230AP	xStack 3200 Series 802.11g Access Point with 802.3af PoE
DWL-7130AP	xStack 3200 Series 802.11a/b/g Access Point
DWL-7230AP	xStack 3200 Series 802.11a/b/g Access Point with 802.3af PoE
Modules	
DEM-411X	1-Port 10 Gigabit Fiber Module with XFP slot
DEM-411T	1-Port 10 Gigabit 802.3ak Module with CX-4 connector
DEM-411S	Stacking Kit (2 DEM-411T modules & one 0.5 meter stacking cable)
Transceivers	
DEM-310GT	Mini-GBIC/SFP 1000BASE-LX (up to 10Km)
DEM-311GT	Mini-GBIC/SFP 1000BASE-SX (up to 550m)
DEM-421XT	10GBASE-SR Multi-Mode XFP (up to 300m)
DEM-422XT	10GBASE-LR Single-Mode XFP (up to 10Km)
Redundant Power	
DPS-600	500 Watt Redundant Power Supply
AP License	
DS-725	25 Access Point License
DS-750	50 Access Point License